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Labour Mobility and the Global Competition for Skills: Dilemmas and Options

Richard G. Harris (Simon Fraser University)

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Abstract

The paper provides an overview of the impact of increased labour mobility in high skill occupations on welfare, productivity growth, income distribution and on the constraints facing small country economic policy makers. Two broad analytical frameworks are identified: the factor migration approach to international human capital movements and the labour market integration approach derived from the literature on economic unions. Within both approaches the welfare impacts of increased labour mobility are generally small within the neoclassical models of trade and growth unless some additional factors are introduced. Three channels, which affect productivity dynamics, are discussed: national human capital externalities, global knowledge spillovers and economies of specialization feasible in more closely integrated labour markets. Increased labour mobility raises a number of policy dilemmas. Small countries may be potential losers in a non-cooperative global skills competition with race to the bottom type outcomes. Alternatively labour market integration initiatives within free trade areas may carry large benefits to small countries. Initiatives to improve labour mobility for skilled workers within NAFTA could prove to be quite important for long run Canadian growth.

Résumé

Ce document donne un aperçu des répercussions de l'accroissement de la mobilité de la main-d'œuvre hautement qualifiée sur le bien-être, la croissance de la productivité, la répartition des revenus ainsi qu'à l'égard des contraintes auxquelles sont confrontés ceux qui élaborent les politiques économiques des petits pays. Deux grands cadres d'analyse sont présentés : la démarche fondée sur le facteur de migration pour expliquer les déplacements de capital humain dans le monde et la démarche fondée sur l'intégration des marchés du travail, inspirée de la documentation sur les unions économiques. Selon les deux démarches, les répercussions sur le bien-être de l'accroissement de la mobilité de la main-d'œuvre ne sont généralement pas très importantes selon les modèles néoclassiques du commerce et de la croissance, à moins que d'autres facteurs entrent en ligne de compte. Ce document porte aussi sur trois voies qui influent sur la dynamique de la productivité : les externalités nationales liées au capital humain, les retombées du savoir dans le monde et les économies de spécialisation pouvant être réalisées sur des marchés plus étroitement intégrés. L'augmentation de la mobilité de la main-d'œuvre donne lieu à quelques dilemmes politiques. Il se peut que les petits pays qui se lancent seuls dans la course mondiale à la main-d'œuvre qualifiée dans un contexte de nivellement constant par le bas en sortent perdants. Par contre, des mesures d'intégration des marchés du travail dans des zones de libre-échange pourraient être très bénéfiques aux petits pays. Des mesures visant à accroître la mobilité des travailleurs qualifiés dans le cadre de l'ALENA pourraient être très importantes pour la croissance à long terme du Canada.

1. Introduction

When people use the term 'labour mobility' they are usually referring to geographic mobility of workers either within a country or between countries. At the broadest level there is significant attention to, and public policy concern with, the migrations that are now occurring globally from developed to developing countries. The aging of OECD societies has energized this debate significantly as industrial countries look to immigration as source of labor force growth in the face of retiring baby boomers. Canada is no exception as the collection of essays in Beach, Green and Reitz (2003) attests. It is worth noting that the current international migrations pale in comparison to the flows that were observed at the end of the 19th century and early 20th century. As discussed in Hatton and Williamson (1998) the current wave of globalization has by comparison had much less of an impact on labour markets than was the case in that earlier period. Countries now seek to strategically attract the most skilled migrants through adjustment of immigration controls in the face of a very large, but highly differentiated, queue of potential migrants. The Canadian point system for immigrants which emphasizes skills or the US H1-B temporary visa program for skilled workers are only two examples. For many years now these industrial country policies have been attacked as promoting a Brain Drain from a poor South to a rich North, with charges that it has perpetuated underdevelopment and constrained economic growth in the South.

At the same time it somewhat ironic that industrial countries have become alarmed about the exit of some of the most skilled and talented natives. The 'Brain Drain' is now an industrial country issue. Certainly here in Canada, in particular during the late 1990's, this became a prominent media and public policy issue. In Canada the numbers leaving were not small. Finnie (2001) estimates that 178,000 people left Canada to go the U.S. between 1991 and 1996. The most striking change is the increase in the number of Canadians entering the U.S. under TN visa in the late 1990s, reaching an average of 73,000 entries per year during the 1998-2002 period. The same concerns that have been expressed in Canada are mirrored in many other high-income countries. The technology boom which began in the early 1990's and ended with the stock market crash in 2001 significantly changed policy perceptions as to the relative importance of retaining the very highly skilled. Strong productivity growth in US high tech sectors and much

weaker growth in other OCED countries accompanied by large flows of highly skilled young and mid-career people to the US pressed the alarm bells in a number of industrial countries. What is interesting, and perhaps less noticed than the domestic policy concerns, was the shift in the nature of the labour markets where the new knowledge workers were concentrated be it the ICT producing sector, financial services, or biotechnology. The skills of these individuals had become sufficiently scarce that immigration 'controls' had little relevance to their geographic choices—they had become globally mobile knowledge workers. The theme of this paper is that this is a trend which is unlikely to change and it has profound implications for the Canadian economy.[1] In the late 20th century knowledge workers have become the ultimate internationally mobile resource, facing global economic opportunities similar to, or better than, those enjoyed by global capital in the modern era of globalization.

This development has two major implications for policy that will be the focus of this paper. First the de facto increased global mobility of knowledge workers is important for economic growth because of the unique role that these people play in the global diffusion and creation of knowledge. National wealth is now to a considerable degree knowledge driven as Industry Canada often reminds us. A necessary condition therefore to succeed in this environment is the ability to train, retain and attract global knowledge workers. Knowledge workers in the language of Head and Ries (2003) are one of, if not the most, important internationally mobile resources (IMR). National governments now compete for these workers. This head-to-head competition puts a perspective on globalization quite different than for example the one given by multilateral trade liberalization—a classic case of a win-win policy. Competition for global knowledge workers has a strong zero-sum aspect to, it at least as perceived by policy makers and the corporations and organizations that compete for these people. If one country wins another must lose. At the same time that governments are strategically competing for these workers the forces that are driving globalization-- technological change in ICT, the proliferation of regional trade and investment agreements, and the rapid industrialization of Asia—have all raised both the returns to winning these competitions and the relative bargaining power of the knowledge workers themselves.

[1] This view has been developed in a series of papers including Harris and Schmitt(2003), Harris(2004a) and Harris(2004b).

All of this has an impact on the way in which we assess a wide range of policies which alter the terms of this competition, and the role that nations play in the creation of knowledge workers.

Canada is heavily integrated with the United States on both the trade and investment front. This is affecting the organization of the Canadian economy, the way in which business is conducted, and the role of governments in the economy. When barriers to economic exchange are sufficiently low markets naturally expand and trade becomes common. The same is true with respect to labour markets. As economic integration of national economies proceeds at some point the integration of labour markets begins to occur. In the extreme a single, or common, labour market can be created through the cooperation of the participating nations in which labour is free to move among the regions making up the common market area. The single labour market program of the EU is the classic completion of this process of integration. Labour market integration may or may not lead to an increase in observed mobility defined as increased flows of labour between regions. Most economists would argue increases in labour movements are more likely, although in the EU example there does not seem to be much evidence of this yet. It does imply that the economic options of those participating in the common market are greater. As in the case of all market expansions there are significant potential efficiency gains which come with the increased division of labour this allows. These effects are quite different than would be the case for example by a one-time loosening of immigration constraints between two countries. First, a genuine labour market integration is a permanent institutional change in the set of rules governing rights of access to the citizens the integrating countries. It will lead to differences in expectations, investments in skills, the organization of firms, and pressures on governments that a one time migration does not.

The increased mobility of knowledge workers suggests that for at least one important subset of the labour market the natural barriers to international exchange have become sufficiently low that there is now a rapidly emerging possibility that Canada and the United States could take the current level of integration to the next step in the form of a single or common labour market. The prominent historical role of geography in limiting the extent of the labour market is now diminishing given modern communication

networks and air transport linkages. As was evident during the tech boom of the 1990's, people are free, able and willing to go where the jobs are, and these are spread across both US coasts and southern states. A single Canada US labour market for the highly skilled would most likely be characterized by patterns of movement between the major cities with areas such as Kanata being heavily linked to the software communities residing in areas such as Seattle, Boston, or San Francisco. Given that most jobs turnover now at a relatively rapid pace, a fully integrated labour market would also be characterized by substantial cross-border job turnover, with reverse and multiple-reverse migrations occurring for many workers. All of these would be evidence of the natural consequences of reduced barriers to exchange and larger transaction volumes that normally accompany market expansion.

In the interests of parsimony I shall refer to a NAFTA sanctioned single North American Labour Market as a NALM. Given the current level of Canada-US economic integration and existing formal barriers to cross border labour mobility it is unlikely that a NALM for any broadly defined labour market group could emerge solely as a consequence of market forces. It is not impossible—certainly the international mobility enjoyed by certain classes of global knowledge workers have created close to single market conditions. I can attest for example that in the case of research oriented younger academic economists this is close to being true. But without the assurances that only governments can make, there remain formidable barriers to the emergence of a single Canada US labour market in most occupation and skill groups. At the official level, other than the TN visa program, there is in the current state of Canada US relations little prospect for a NALM. This could change quickly if the political winds shift. It is important that an appropriate cost benefit analysis of labour market integration be undertaken. Freer trade in labour services could be a benefit to both Canada and the United States, and not necessarily a zero or negative sum competition with one country gaining at the other's expense.

The paper proceeds as follows. In section 2 some of the analytical issues that the alternative perspectives-factor migration, Brain Drain and market integration -bring to bear on the issue of increased labour mobility. In section 3 the welfare and growth consequences of increased international mobility of skilled workers is considered,

including a discussion of the impact on convergence of income levels, rates of knowledge diffusion, and the dynamic capacity of the economy to adjust to shocks. Section 4 deals with some of the distributive and political economy consequences that arise from the emergence of a highly mobile skill group in the labour force, when the majority of voters are substantially less mobile. In section 5 some of the policy implications are drawn out. There is a discussion of both (a) national policies focused on mobile knowledge workers, and (b) alternative forms of single labour market arrangements and their potential problems. Section 5 concludes.

2. Labour Mobility: Immigration, Brain Drain and Economic Integration Perspectives

The literatures, both policy oriented and academic, on the closely related issues of a) immigration and b) Brain Drain or outmigration are, to put it mildly, large. It is not my intention to review either of these here. In this section the purpose is to draw out the similarities and differences these various perspectives bring to the issue of international labour mobility of the highly skilled of particular relevance to Canadian policy debates. The literature on the impact of economic integration on labour markets (trade and investment, regional free trade areas) is vastly smaller than the literature on migration. This is particularly true with respect to policy driven labour market integration, despite the prominent case of the European Union. De facto labour mobility, particularly of the skilled, of course appears to be a growing trend within the global economy, despite the restrictions national governments place on immigration. Market driven labour mobility does share some analytical similarities to the set of issues arising from policy driven labour market integration.

The Brain Drain literature from a policy angle can best be characterized as nations strategically competing for a scarce internationally mobile resource—in this case very highly skilled knowledge workers. It is well known that in these type of competitions the optimal national policy in a non-cooperative equilibrium is generally to subsidize in one way or another the mobile factor. From a world perspective these type of competitions are generally, but not always inferior to cooperative and credible commitments by national governments to not engage in subsidy. In the case of skilled labour the only interesting analytical difference from the case of capital is significance of the elasticity of

supply of the global knowledge workers. If this elasticity is very low then these subsidy wars will be particularly harmful to overall welfare generally with large transfers of income from national governments and immobile domestic factors to the mobile Brains.[2] Governments of industrial countries also use immigration controls as one means of competing for talent. The logic of the subsidy competition argument however remains the same.

The concerns of both the immigration and Brain Drain literature is often specific to the particular regional economic area integration host and source countries might participate in. Canada for example draws most of it immigrants from countries other than our NAFTA partners and consequently NAFTA immigration from the Canadian perspective has not been that important. In other cases such as US-Mexico and East European integration with the EU, the immigrant question is central to the costs and benefits of the economic integration being proposed. In the latter cases the focus is on accommodation of flows of unskilled labour to the higher income region. International economists have long been concerned with the impact of all forms of economic integration on national economic performance. But analytical literature on the integration of labour markets pales in comparison to the comparable literature dealing with trade and foreign direct investment (FDI) under either multilateral or regional trade agreements. A standard textbook treatment of or either immigration or migration is to treat these movements of people as *permanent* and *irreversible* shifts in labour supply (including the relevant human capital) from one country to another. The source of these migrations are sometimes treated as policy driven, but in other cases arise exogenously due to any number of assumed pressures arising in source countries. In contrast the textbook treatment of market integration is a permanent and irreversible linking of two previously geographically segmented markets. The integrated market is characterized by wage convergence which is achieved by generally two-way flows of labour supply to meet any shifts in labour demand or supply which occur in the geographically separated markets. There are invariably transaction costs even in fully integrated markets, but in the absence of specific policy barriers to the market driven labour movements we can think of this situation as analogous to free trade in labour services. What differentiates labour

[2] Brander(1999) provides a survey of the large literature on strategic trade.

however from goods, and most capital movements, is the importance of other non-wage factors which drive migration decisions. The role of taxes, public goods provisions, labour market insurance, and a range of social and personal factor all figure importantly in the migration decision of individuals. Labour is a highly heterogeneous factor, and therefore what is important in order that market integration produce efficiency gains is that there be a sufficiently elastic supply of potential migrants who do respond to economic incentives.

There are some links between these approaches. Were some type of permanent NALM to emerge within NAFTA, there might well be some period of transitional factor flows leading to permanent shifts in relative labour supply. To the extent that is the case the factor migration approach might bring some insights to the transitional effects. In the case of Canada-US there is the perennial Canadian fear that a Brain Drain out of Canada to the US might occur. A permanent Canada-US NALM might accelerate this trend or it might not. Secondly if the NALM included unskilled labour, there might also be a reallocation of unskilled labour stocks between Canada and the US. One obvious question would be whether this might lead to large numbers of poor unskilled Americans who would come to Canada in an effort to gain access to the higher level of social services in Canada. On the other hand it might be the case that the high unemployment regions in Canada would experience increases in outmigration to faster growing US labour markets. Research on either of these questions has not been done.

Each of these approaches has different implications with respect to control a national government has the growth rate of it's labour force. Immigration is one of the important means by which governments controls population growth, and thus the rate of growth of the labour force and ultimately overall economic growth. On the other hand if two countries enter into a permanent common labour market arrangement then the linkages running between immigration, the labour force and economic growth are fundamentally altered. A nation no longer has the same degree of direct control over its labour force growth. If it seeks to increase the rate of growth of the labour force by admitting a larger flow of immigrants, the net result will depend upon the balance between net outflows to other common market participants, and the net rate of labour force growth of the domestic economy, inclusive of immigration. Canada for example

has a very high rate of immigrant intake—a current target at approximately 1 percent of the population or 300,000 per year. But given that birth rates are very low overall population growth and therefore projected labour force growth is closer to 1.5 percent per annum. This projection however is not independent of what the US chooses to do with respect to immigration, since Canada and the US obviously compete to a significant degree for the same immigrants.

With labour mobility there are also causal links running from growth differential to migration. Shifts in the underlying patterns of growth of the two partner countries will have an impact on the growth rates of the respective labour forces, given any exogenous sets of immigration policies. Under a common labour market if the US economy were to experience an exogenous increase in its growth rate and Canada did not, for example due to strong US specific productivity growth, then generally labour would flow from Canada to the US and overall labour force growth in Canada would be lower than the immigration targets would predict. Conversely if growth were higher in Canada than the US then the opposite would occur—labour would migrate to Canada from the US and the net result would be a faster rate of labour force growth in Canada.

Holding productivity trends constant, changes in immigration policy in one country will spillover to the other country. Thus if the US were for example to raise its immigration targets some of that labour force growth would under a NALM would end up in Canada. Exactly how much is not possible to predict but one could use the experience of flows between US states to benchmark what might be possible. Overall one would guess however the effect on Canada would be small. A large part of US immigration has located itself in the southern states and the fast growing coastal states. If the US were to raise its immigration intake the best guess is that those trends would probably continue.

On balance therefore under a single NALM Canada would lose some control of its ability to use immigration as a policy to influence labour force growth, but the overall impact of a NALM on Canadian labour force growth might be expected to be small provided productivity growth in Canada does not fall dramatically behind that of the US. Moreover there even within a NALM, As discussed below, it is quite probable that any

politically feasible Canada US NALM would include some restrictions on the ability of new immigrants to access both labour markets immediately upon entry to North America.

The literature which is most relevant to a possible NALM is that related to labour mobility within existing economic unions. There are three literatures one can draw on here. The Canadian literature on interprovincial labour mobility, the US literature on interstate labour mobility, and the literature on labour mobility within the European Union. One can use the labour experience of these existing economic unions to benchmark what 'greater' formal labour mobility across the Canada US border might imply. The wide divergence between the US and European experiences, with the EU experiencing much lower rates of geographic mobility than the US, suggests however there is a wide range of uncertainty about both the transitional and long run impacts.

3. Welfare Economics of Labour Mobility

In this section the welfare economics of labor market integration and mobility is reviewed. Major welfare issues are covered dealing with convergence in growth rates and income levels, the impact of international labor mobility on knowledge spillovers, the importance of cross border mobility to Canadian service exports, and the income and employment stabilization effects. These factors are relevant whether one takes a national strategic perspective in the sense of a non-cooperative competition for global knowledge workers, or from a labour market integration perspective. There is one important difference between these approaches with respect to welfare impacts. If the economic benefits to attracting global knowledge workers is higher for reasons to be discussed, then the losses from not succeeding in attracting them will also be higher. In this case the stakes to winning and losing will have been raised. This type of zero sum competition is less evident in the labour market integration approach. In the latter case there are gains from trade in labour services which lead some win-win aspects of this form of enhanced international labour mobility

3.a. Traditional Approaches How Big are the Gains

As I have argued elsewhere the existing literature which treats labour mobility as equivalent to labour migrations as invariably found quite small welfare effects.[3] Within the traditional factor migration approach to labour, potential economic effects of labour movements are small expressed as a percent of GDP, and in comparison to measured gains from trade liberalization. From a national welfare perspective therefore the role of labour mobility pales in comparison for example to the well established benefits from free trade in goods, and the liberalization of foreign direct investment. The basic problem with the factor migration approach is that it misses two important welfare channels-productivity effects and risk shifting. In the Brain Drain literature for example the net transfers of highly skilled workers in aggregate terms is minute as measured against existing stocks of human capital.[4] It is not surprising therefore that estimated impacts are low.

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[3] See Harris (2004a) "Costing the Brain Drain"

[4] This statement applies only to industrial countries. Matters are quite different when viewed from the perspective of developing countries.

Getting a handle on the potential static effects of true international labour market integration is fraught with difficulties. There are very few papers in the applied general equilibrium literature which deal with this issue. Hamilton and Whalley (1984) were among the first to lay out some of the basic methodological problems that have to be dealt with. Not the least of these is how one deals with the large labour productivity differences which now exist across countries. The answers one gets to opening up labour mobility of a particular skill group between any group of countries is extremely sensitive to how one assumes the productivity of a worker is impacted in moving from a low productivity country to a high productivity country. One very interesting recent paper in this regard is Iregui (2003) who looks at the global implications of allowing labour mobility of the skilled and unskilled between developing and developed countries. She assumes that productivity is nationally fixed but transferable to labour which moves from one country to another. Her estimated effects of freeing labour up international labour flows are very large. She finds that when both the skilled and unskilled labour migrate world GDP can increase from anywhere between 13 to 59 percent. When only skilled labour migrates the welfare gains are much smaller-between 3 and 11 percent of world GDP. Not surprisingly however in the case of unskilled labour the model predicts extremely large flows of unskilled labor from developing to developed countries. Mercenier and Schmitt (2003) use a much simpler three country model to look explicitly at the impact of free mobility of entrepreneurs. They find much smaller net welfare effects from allowing free mobility of entrepreneurs. The problem with most applied general equilibrium analysis is the inherent static nature of the model.

3 b. Productivity and Growth Convergence

A major missing piece in the static framework is the lack of attention paid to the determinants of productivity growth. The large literature on growth and productivity policy clearly establishes that to the extent one is interested in increases in economic efficiency, and thus living standards, it is the productivity effects which are quantitatively the most important as stressed in the large literature on endogenous growth (see Aghion and Howitt (1998) for example). Thus in looking at the efficiency consequences of either a NALM, or of changes in policy levers designed to increase international mobility of a particular skill group, one needs to think seriously as to what these effects might be.

The literature on the impact of labor mobility on convergence is relatively sparse. What exists is reviewed in Harris (2004a). The overall balance of evidence on economic integration is that it tends to contribute to income and productivity convergence. The bulk of this evidence pertains primarily to trade and investment agreements.[5] Studies which look at convergence effects in existing federations with substantial labour mobility such as the US or Canada generally show faster convergence than between independent nations. However it is difficult in these cases to disentangle the separate effects of free trade in goods, free movement of capital and free movement of labour.[6]

There is also an analytical case that economic integration might lead to divergence if the market forces tend to either reinforce or strengthen international productivity differences. At any point in time countries differ, often dramatically so, in productivity levels. Within Canada there have for some years now been repeated concerns about Canada's low productivity level relative to the US. The debate was given added impetus by the increase in the labour productivity gap between Canada and the US, which accelerated after 1994 as discussed by Bernstein, Harris and Sharpe (2002). From 1977 to 1994 the Canada-US gap in output per hour in manufacturing averaged 14 percent. Canada's relative gap has risen 20 percentage points from 12 percentage points in 1994 to 32 percentage points in 2001. Output per hour in Canadian manufacturing fell from 88 percent of the US level in 1994 to 68 percent in 2001. Within Europe integration of a poor South with a rich North has led concerns that economic integration might lead to widening income divergence.[7] If divergence were the norm then clearly greater economic integration via a NALM might contribute to even greater rates of divergence. Small countries in particular are often thought to be disadvantaged in this process.[8] But the evidence we have however suggests that convergence in response to integration as opposed to divergence is the norm. The fact that within existing free trade areas convergence is not complete can be viewed as one indicator that factor mobility is still far from perfect. How would greater labor market integration with a free trade area impact on the rate of convergence and its permanence?

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[5] Harris(1996) contains a summary of this evidence as it pertains to Canada.
[6] See Coulombe and Lee(1996) for a discussion of the convergence between Canadian provinces.
[7] See Zimmerman(2001).
[8] Head and Ries (1999) in looking at the Canadian evidence and find no support for the divergence hypothesis post FTA.

Consider a world in which productivity differences are transitory but subject to endogenous convergence pressures. Suppose for example that regions are hit continuously with region specific shocks to productivity but that endogenous investment, education and R&D responses by firms and governments cause regions which fall behind leaders to catch-up. If this were the case then on average over time regions subject to free trade in goods and factors would have similar average levels of productivity, with transitory periods in which they were above or below the average. There is some evidence provided by Barro and Sala-I-Martin (1995) that such a process describes the history of US states for example which are specialized in goods production, but whose productivity levels have generally not diverged significantly over long periods of time. To ensure that convergence is ongoing, and thus productivity differences are neither large nor permanent, one needs a policy framework which ensures the arbitrage of returns to factors across regions. This provides a mechanism which continuously disciplines the processes which lead to productivity differences, and therefore set in motion decisions by firms and individuals which seek restore long run relative productivity status. In this case labour mobility leads to convergence of wage levels and incentives to invest. In the long run competition in goods, capital and labour markets which is ensured via full integration of these markets leads to convergence of incomes in the absence of any region specific shocks. But if having achieved convergence, one then segmented capital and labour markets, it is entirely likely that this would lead to subsequent divergence as regions are hit with adverse idiosyncratic shocks fall permanently behind.

A formal theory of this process has been sketched out by Razin and Yue n (1997) which deals explicitly with the interaction between goods market, capital and labour market integration within a human capital driven model of growth. They find that goods and capital market integration is not sufficient to ensure income convergence, although it does lead to growth rate convergence. Within their theoretical framework complete international labour mobility is a necessary condition for income level convergence to occur.

The convergence literature does not convey an optimistic view on prospects for national economic success in a world in which strategic national competition for globally

mobile skilled labour is the norm. In this case there are national winners and losers as countries' shares of the highly skilled shift. Countries that do not succeed in attracting globally mobile human capital can only prevent being left behind, by devoting extra domestic resources to human capital investment. The convergence process will be disrupted by the degree to which outcomes of the competition are one-sided. In cases of large asymmetries in bargaining power for these mobile resources it can under some circumstances be optimal for a country to refrain entirely from engaging in incentives wars. By so doing the public resources that might have been used to attract globally mobile factors can be used to augment the domestic supply of Brains. It is not clear cut however what is the optimal policy. In the Canada-US case if the US is going to aggressively subsidize the recruitment of talent, Canada may have no alternative but to follow suit.

The lessons for Canada of the convergence literature appear to be mixed. Canada has experienced substantial convergence to US income levels in the post World War II period, but post 1980 this convergence has slowed substantially. The productivity gap debate has attempted to provide answers as to why this convergence process has slowed despite relatively free movement of goods and capital between the two countries. It may well be the case that barriers to labour mobility are a major contributing factor. If that is the case then the efficiency gains to Canada of a NALM would be substantial. In the absence of labour market integration it will be certainly be more difficult to close the gap. Whether the gap can be narrowed by more aggressive policy towards attracting globally mobile talent is an open question.

3c. Knowledge Spillovers

One of the compelling facts on the sources of growth is the importance of knowledge spillovers between nations. A wide range of studies, using proxies for knowledge such as R&D stocks or patents filings, shows that knowledge created in one country impacts on productivity growth in other countries—particularly those for whom economic linkages are strong. The mechanism by which knowledge is diffused from one country to another has been often theorized as related to trade and investment linkages. The first set of studies which attempted to measure these type of international knowledge

spillovers as they affect growth were Coe and Helpman (1995) and Coe, Helpman and Hoffmaister (1997). They estimated the impact of R&D stocks in one country on the productivity growth in other countries. They found that this effect was both a statistically significant determinant of the rate of total factor productivity growth within a country, and the strength of the linkage was a function of the level of two-way trade. More recent studies have confirmed these earlier findings in larger data sets. Keller (2001)(2002) estimates that technological diffusion from the G-5 countries to nine other small OECD countries contributed almost 90 percent of total effect of R&D on productivity growth. In Keller (2002) he examines the role of distance, trade, FDI and language similarity as a propagation mechanism for international technological diffusion. Looking at distance effects he finds that the average value of a dollar of US R&D on Canadian productivity growth is 78 percent of the value of a domestic dollar of Canadian R&D. Given that US R&D spending is about 40 times that of Canada, US R&D is of enormous importance to Canadian growth. He measures the strength of bilateral technology diffusion across different country pairs by reporting the share of a sender country in a given technology recipient's total technology inflows. In the case of Canada he estimates that 69 percent of total world technology diffusion to Canada originates from US R&D stocks.

Despite progress in estimating the international diffusion of knowledge there remains considerable uncertainty as to the exact channel by which knowledge diffuses from one country to another. One suspects the measured trade channel is a proxy for some deeper causal mechanism. Given that knowledge resides in people it may be that interactions between people are the root source of these spillovers. If interactions between people, commercial, educational or personal, in any two locations increase it would be reasonable to assume general transfers of knowledge would also increase. One consequence of globalization is that the pace of human interaction across borders has gone up significantly. The reason people are so important, rather than for example a computer and web link, is that much of useful knowledge is non-codified and tacit.[9] Interactions between people matter. The number of workers in an economy who are linked to global knowledge industries I think will ultimately prove to be an important determinant of these spillovers.

[9] The growing economic importance of tacit knowledge is one of the defining characteristics of the New Economy. See the discussion in Harris(2001).

Why might cross border labour mobility matter for the size of these spillovers? Improving international labour mobility is likely to increase the size of the pool of global knowledge workers available to Canada. Given the specialization that is required in knowledge industries access to global job markets is an important attribute of any job location for people choosing to enter these occupations. A variant of this idea is 'Brain Circulation'--Johnson and Regets (1998)—the idea being that an observed Brain Drain is followed by a reverse flow or 're-circulation' which helps transmit knowledge from the initial country to which Brains are drained back to other countries. A Canada-US NALM could help in two ways along these lines. First, it could increase the two-way flow of knowledge workers between Canada and the US and thus strengthen the potential knowledge spillover effect. Second there may be an important market size effect in Canada. A NALM might not guarantee access for Canadian job seekers to the US labour market, but it would substantially increase the size of the potential knowledge based job market. This market size effect would lead to greater investment in knowledge skills by Canadians and incentives to specialize in particular skills given the larger market. To the extent more Canadians choose knowledge occupations this will also provide firms and organizations in the knowledge intensive sectors a reason to locate in Canada. On both counts therefore creation of a NALM would tend to increase the rate of global knowledge diffusion from the US to Canada.

The benefits and risk of winning or losing in national strategic competitions for globally mobile labour can be changed in important ways if international knowledge spillovers are an important growth driver. On the one hand if these knowledge transfers occur relatively costlessly, then the benefit to winning a talent race is reduced, or alternatively the cost to not winning is reduced. On the other hand if the global knowledge worker is an essential and important input to the process by which the knowledge is transferred internationally then failure to attract and retain these individuals will diminish the capacity and thus the ultimate size of the international spillover channel. As far as I am aware there is as yet no reliable evidence which resolves which of these is more likely for small open industrial economies. This is one area where additional research is clearly needed.

3d. Service market integration and temporary labour migrations

The importance of current and future North American economic integration on the service economy cannot be understated. Manufacturing represents 18% of GDP while services represents 68% of GDP.[10] In 1990's business services grew at annual rate of 4.9% compared to the total economy which grew at 2.4% and in 2001 service sector jobs accounted for 74% of total employment. Large parts of the service sector are now subject to integration pressures through changes in technology and trade policy initiatives at both the regional and multilateral level. Given the importance of geographic proximity in service transactions this is particularly true with respect to Canada-US economic integration, and is of first order importance in looking at the labour market integration question. Service trade continues to increase in its relative importance to Canada. In 2001, Canadian exported services worth $55.1 billion, which accounted for 11.8 percent of total Canadian exports of goods and services, while import of services were $61.9 billion in 2001, which accounted for 15 percent of total Canadian imports of goods and services. Technological change is an important driver of the international integration of Canadian service markets into the US. A distinctive characteristic of -ICT based technological change is the 'death of distance' which is having a large impact on the production and distribution of business service activities. Examples include financial services, accounting, market, engineering services, media, telecommunications and transport services. It is widely claimed that the next stage of market liberalization is 'all about services', both at the regional and multilateral levels.[11]

Many of the services in the New Economy are thought to characterized by localization economies--that is physical proximity of buyers and sellers is a necessary feature for these to develop. In a national economy or even at the level of a large city these would usually be non-traded services. The same is also true to a lesser degree in isolated small economies. Most of these type of services can be viewed as highly specialized, involving close interaction between customer and provider and are labour intensive—in fact one might view many of these services as simply provision of labour

[10] A useful overview of service sector statistics is provided by Industry Canada(2001).
[11] The state of the WTO agenda on multilateral service liberalization is somewhat in doubt given the outcomes in both Seattle and the Doha round. It continues however to be high on both the Canadian and US trade policy agendas.

services by another name. Specialization in the service export market therefore implies specialization of labour.

Labour market mobility and service market integration thus go hand in hand. Labour mobility effectively increases the market size for both buyers and sellers of labour intensive business services. Importers of producer services, such as managerial and engineering consulting, can provide domestic firms with the substantial benefits of specialized knowledge that would be costly in terms of both time and money for domestic firms to develop on their own. On the export side specialized service providers who have access to larger markets will earn higher returns and thus have greater incentives to undertake the necessary investments to be specialized.

Two types of labour market transactions are of particular significance to Canadian service exports—temporary business transfers and virtual network based exchange. In the case of temporary business visits the TN visa program already provides a reasonable degree of mobility. The motivation for the TN program was is to facilitate trade, and in particular those types of trade where close interaction with either the customer at the point of delivery, follow-up service related to previous sales, or preliminary interactions with customers prior to, sale are an important aspect of the bundle of services related to the export sale. While facilitating temporary business visits may increase service exports, in other sectors it might lead to an increase or decrease in Foreign Direct Investment. Inward FDI to Canada which is targeted at producing and servicing the NAFTA market might go up if firms find it easier to relocate people in the US or Mexico for short periods. In other cases FDI might fall as mobility increases. For example if a business service is currently being provided within Canada by the subsidiary of a U.S. Multinational, then easing restrictions on labour mobility might shift the margin in favor of reducing the formal FDI presence in Canada, and simply have MNE personnel cross the border to provide the same services. In this sense trade and labour mobility of this form may be substitutes in some sectors rather than complements. Consulting services would be one potential example where this type of substitutability might exist. In either case there are benefits to increased specialization in service markets. Canadian labour in these sectors benefits through access to larger markets and thus range of employment opportunities created by greater cross border mobility.

As in the case of physically mediated business services, there are services which can or already are delivered through electronic networks including the Internet. This raises the prospect of a continental E-labour market for some types of labour services. Examples would include call centres, software engineering, data entry, translation services, and distance teaching. As in the definition of any market the key issue is the degree of substitutability between alternative sources supply-in this case the virtual and the physical factor supply. Firms may seek to source labour via electronic data networks when it is technically possible and cost effective. The emergence of an Internet mediated market for some types of business labour services would result in greater specialization by skilled labour in the integrating region as a whole, but a dramatic increase in market size for the specialized labour services providers located in smaller regions. In a fully integrated, virtual labour market the country of location of the point of origin of the labor services should in principle not be a barrier to sourcing. Reducing the regulatory and trade barriers to firms and individuals in these type of virtual employment arrangements will be important if a North American E-labour market to evolve. It would be advantageous to create new forms of cross border worker-firm contractual relationships which would facilitate the telemobility of labor services across the border. This would expand the NA market for virtual labor services, and potentially increase employment of skilled labor in those regions where job growth has been weak but labor supply has been ample. Canada is already competing with countries well outside NAFTA for some of these type of jobs. The trend to IT outsourcing of services by US firms to India is well known.[12] ICT technology is in some cases leading to market driven labour integration in the absence of any policy framework. The major advantage of bringing these type of transactions under the umbrella of a formal NALM is to secure the market form the potential of future protectionist actions in the US. There have already been calls to limit IT based outsourcing in the US by organizations such as the telcom workers' union. As Canadian experience shows there is no guarantee that one can get absolutely secure access to the US market, but bringing these type of transactions under the NAFTA umbrella would be extremely useful. More formal labour market integration

[12] See Business Week, December 8 2003 "The Rise of India".

might serve to reduce US perception of Canadian based IT services as a competitive threat.

The global integration of service markets is one important driver of the increased competition for global talent and has been a large source of the total increase in global knowledge jobs—areas such as financial services and accounting stand out in particular. The global competition for talent has paralleled the growth in these sectors. Should globalization of services for whatever reason be reversed I think there would also trend back to the nationalization of the labour markets in these sectors. In this case the competitive 'war for talent' would be reduced. However if this trend occurs globally it seems quite unlikely it would happen in the Canada-US context given the existing state of bilateral economic integration. The net effect of a reverse in globalization on Canadian knowledge workers might be to actually reduce their opportunities globally while increasing them at the continental level. To this extent policies focused on Canada-US talent competitions will become more important. On the other hand if globalization of services continues then Canada may find that Asia and Europe will become more important as sources of competition for talent.

3d. Income, employment stabilization and risk bearing

Regional labour markets and particular industries within regions are subject to shocks in demand and supply which are not necessarily correlated across regions or industries. These shocks can occur on varying time scales from the relatively short business cycle shock lasting six months to two years, to the long term structural shocks associated with major changes in technology and market demand, often lasting a decade or more. The business cycle time frame has been extensively explored in the macroeconomics literature on optimal currency areas and regional economics.[13] The structural time frame motivated by longer term shifts in technology and comparative advantage which create incentives for labour to move permanently from one region to another is dealt with in the literature on regional economic development, and more recently under the heading New Economic Geography. Under either time frame there are substantial welfare gains from increased geographical labour mobility. In addition to the

13 Most of the empirical literature on OCA and asymmetric shocks takes the state of labour mobility as fixed. The question in this section is how those adjustment costs would change if formal restrictions on labour mobility were reduced.

usual efficiency gains which come from arbitrage of marginal product differences between locations there are gains to reduced volatility in employment and income of the mobile factor.

Improvements in both economic efficiency and reduced income-employment risk can be made if at least some labor is made locationally mobile. Greater specialization of labour has however raised both the size of the efficiency gains and the distributive risk which comes with increased mobility. Highly specialized talents are often in very inelastic supply in the short run. Allowing increased mobility for these type of people is particularly beneficial and in some cases critical. In the short run when regions lose people with these highly specialized skills to a foreign based demand there are obvious short run costs. However in the longer run the larger labour market available to specialized labor tends to reduce income variability and risks of employment in these occupations, and thus increase the long run supply of individuals with these talents.

To the extent that workers' available options expand with improvements in cross border labour mobility, it would be an unambiguous welfare improvement and moreover would tend to raise expected output of the integrated industry as a whole relative to the situation without cross border labour mobility. Note that the total welfare benefits to this type of mobility are particularly important for non-traded goods (for example construction or health care), where imports cannot provide an alternative source of supply. The welfare benefits of greater labour mobility include a more secure source of supply with more stable prices than would otherwise be the case, and these benefits accrue to local consumers, not just mobile labour.

The type of increased international labour mobility that can capture these type of benefits really falls only under the rubric of labour market integration in which labour moves from the low productivity location to a high productivity alternative in the face of the shock. If cross border labour movements are strategically controlled or set in non-cooperative talent competitions then the risk-reducing benefits of increased international mobility are less obvious. In fact increasing unilaterally a single nation's ability to attract globally mobile knowledge workers could even conceivably increase the risk due to asymmetrical regional shock. If movements of global knowledge workers across borders

becomes more highly positively correlated with the regional specific shocks this may tend to create greater volatility for the employment and incomes of the non-mobile factors reducing overall social welfare depending upon the relative weights of these groups in overall welfare. At this point we simply know very little about the distributional risk sharing and volatility effects of increased global labour mobility. More research is needed.

The aging population in Canada is one structural trend which carries a potentially interesting implication with respect to North American labour market integration. At the moment most of the discussion related to aging and immigration has focused on immigration as the potential source of longer run labour force growth. As discussed by Alan Green (2003) however there are reasons to be skeptical about how effective this supply response might be. Historically at the provincial level, labour force growth has been predominantly driven by interprovincial migrants as opposed to international migrants. Opening the Canada US border to labour flows would certainly lead to a more elastic long run supply curve of labour in Canada. While perhaps not a substitute for immigration it should certainly be thought of as complementary.

Evidence

The case 'for' greater labour mobility as an adjustment to asymmetric regional shocks is dependent upon the presumed flexibility of labour markets; the greater the response of wages and migration to a shock, as opposed to changes in unemployment or participation rates the more likely are the net benefits to increased mobility. Morley Gunderson (1994) argues regional migration is of greater significance to Canada than immigration from abroad: At the national level 2/3 of all interprovincial migration is regional, ranging from 40% (Quebec) to 94% (NW and Yukon Territories). Migration tends to occur from low-wage, high unemployment regions to higher-wage low unemployment regions and is negatively affected by distance. Mobility tends to be higher among younger people, due to a longer benefit period from the move, less family disruption, and typically, lower forgone wages. The Atlantic and Prairie provinces are the main sources of out-migration, while Ontario and B.C. are the main destinations. Quebec mobility (in and out) is lower than most province, probably due to language/cultural differences. Finnie (1999) updates some of this using data through

1995. He claims that interprovincial migration rates have been shifting down structurally. Over the period of 1982-1995, 7.4% of the Canadian population were involved in interprovincial migration.

In considering how an integrated labour market in North American might adjust to asymmetric shocks we might usefully examine the cases of the EU and the United States. Both have formal common labour markets with permanent labour mobility rights for all workers. If Canada were to have an integrated labour market with the U.S. for example an obvious question is whether on a North-South basis the degree of labour mobility would converge towards U.S. levels or towards European levels. The difference is significant. With substantial wage and other forms of labour regulation in Europe, the loss of the exchange rate as an adjustment mechanism post Euro has put greater weight on labour mobility as an alternative means of adjustment across European regions. The general view of European labour mobility is that in contrast to the US it is exceptionally low. The majority of studies find that migration within Europe is largely within European states. Migratory responses to labour market shocks are low, and are mainly accommodated by changes in the labour force participation rate. The lagged response of migration to changes in employment are exceptionally long. Decressin and Fatas (1995) for example find that there is a zero percent response after the first year. Two, three and four years after an employment demand shock to the average European region the increase in migration (as a percent of the change in demand) is 27, 45, and 80 percent. These authors find in contrast using US state data that 52 percent of a shock in labour demand is accommodated by migration in the first year. A recent paper by Puhani (1999) looks specifically at France, Germany and Italy. In the case of Germany he finds that for a given decrease in unemployment, 29.6 percent of that decrease would be accommodated by an increase in migration over 1.66 years. The numbers for France and Italy are much lower--8.4 and 3.7 percent. Total inter EU state mobility is very low estimated at 1 or 2 persons per 1000 job holders.[14] One may conclude that thus far labour mobility is an inconsequential adjustment mechanisms within Europe.

The contrast between the US and European experience carries mixed messages for the Canada-US case. Most labour market specialists view Canada as lying

[14] A review of EU versus EU mobility is contained in the paper by Coomans(2004). This estimate is from that paper.

somewhere between the US and Europe in terms of our labour market adjustment mechanisms, and in our unemployment experience for example. This perspective would suggest that full Canada -U.S. labour mobility might serve to increase the adjustment capacity within Canada by more than has been observed in Europe under the EU, but less than has been the case in the U.S.

4. Distribution and Political Economy: The Mobile Highly Skilled versus the Immobile

Neoclassical economics predicts that migrations of highly skilled labour are never distributionally neutral and always create a win-lose cost benefit framework. The region which loses highly skilled labour suffers a decline in productivity and income, while the receiving region experiences an increase in productivity. Even within the source and host regions there are winners and losers. For a region experiencing an in-migration of skilled labour capital and unskilled labour benefit and skilled labor loses. These distributional effects are invariably much larger than the efficiency effects. More modern theories which emphasize dynamic productivity gains can reverse in part the neoclassical prediction. In particular one can generate theories which suggest that all factors-- capital, skilled and unskilled labour-- benefit from an in-migration of skilled labour. However the same set of 'endogenous growth theories' also predict that the country experiencing the outmigration of human capital will lose, at least in the short run.[15] In the longer run it is theoretically possible (see Stark, 2003) to turn the losses from outmigration into benefits if the increased scarcity of skilled labour leads to growth enhancing investments either by individuals, firm or governments. At the policy level however the more common perception is one familiar from the Brain-Drain perspective of a win-lose situation. This of course is what drives strategic policy responses which attempt to attract this type of worker.

The political response of the majority of people and firms who are immobile to increased international mobility is heavily dependent upon how they perceive this to impact on their own economic prospects. Canada is already a highly open economy. The existing NAFTA agreement covers both free trade in goods and free trade in capital—both portfolio capital and foreign direct inve stment. The openness of the economy

[15] See Oded Stark(2003) for a discussion of these issues.

enshrined in formal trade agreements leaves the owners of capital in many sectors with an 'exit' option. That is in the case of an adverse shock –natural, technological, market driven, or political—capital can always choose to leave and go elsewhere. This is not the case for most workers or citizens. This asymmetry has led a number of authors, including notably Rodrik (1997) (1999), to advance the hypothesis that globalization—defined as free trade in goods and the free movement of capital—has increased the level of facing the majority the citizens in the smaller highly open economies. For example more open markets lead to the full transmission of international price shocks. Reduced trade barriers and lower transport costs leave domestic firms and jobs open to foreign outsourcing in the face of low wage competition. Moreover it is argued these risks have been shifted to labour and government. Globalization therefore has created demands for increased social insurance and other forms of government mandated risk sharing.[16] To Canadians this is a familiar message—more open markets leads to increased demands for social insurance programs.

Thus far the evidence in favor of this hypothesis is limited.[17] But true or not it is I believe entirely consistent with popular perceptions as to the impact of globalization. The poll evidence in the US is clear on this. A Business Week poll in 2000 found that 68 percent of Americans believe that globalization drags down US wages.[18] Creating institutions or policies which enhance the mobility of a select group of workers who are perceived as the winners from globalization will surely meet some resistance due to this perceived asymmetry in who is bearing the increased risk created by greater factor mobility.

Labour of an average skill level will react to a possible NALM with this asymmetry in mind. A NALM would essentially give those workers willing to move the exit option now available only to capital. Of course not all workers are willing or able to move; those who are genuinely immobile cannot benefit from a NALM and therefore will tend to be less interested or even opposed. But for those who are mobile a NALM will effectively enhance income security and thus be viewed with some favor. Clearly

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[16] Rodrik(1999) also argues that aggregate world risk has gone up with globalization as opposed to merely country specific risk. This is a much more controversial hypothesis.

[17] The evidence is reviewed in Svaleryd and Valchos(2001).

[18] Reported in Business Week, April 24, 2000 on a March 28, 2000 poll released by University of Maryland's Center on Policy Attitudes.

extending any such agreement to broader occupational groups would secure a much wider constituency who would be in favor.

There are also implications for capital. The existing asymmetry in exit options has given international capital a much stronger bargaining position when it comes to negotiating with labour on wages, or with local governments on taxes and subsidized services. The smaller the domestic labour market the greater this asymmetry. Canadian firms are therefore more likely to be affected by a shift in their bargaining power than US firms who must compete for labour in a much larger market. Giving highly skilled Canadian labour a similar 'exit' option would substantially reduce the bargaining power of capital vis-à-vis this type of labour. This in turn would tend to shift the division of any ex post surplus from investments towards skilled labour and away from capital. Over the longer run the higher real wages will induce more intensive capital structures in Canada and higher average labour productivity.

Whether this will impact on the attitudes of Canadian firms towards a potential NALM is difficult to know. The negative effect on capital's bargaining power can be more than offset by the larger benefits to firms of a deeper labour market that NALM would bring.[19] Business will also be interested in tax competition consequences of labour mobility—business could see increased labour mobility as leading to greater tax competition between Canada and US jurisdictions leading to lower marginal tax rates on high income earners which they would generally support. Likewise local governments seeking to attract mobile resources would have to be more sensitive to the impact of net fiscal burden on these mobile workers. Of course workers are already mobile within the existing Canadian federation. Access to the US market will be of greatest value to those for whom the smaller Canadian market is an important constraint. This will most likely apply to very specialized types of labour. In turn it is the firms who are large employers of such highly specialized labour who would be most impacted.

The immobile factors will also react politically to policies targeted at strategic attracting globally mobile skilled labour; this would include for example policies such as

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[19] A similar argument has been used by Caballero and Hammour(1998) in describing the long response of capital to increased regulation of European labour markets. He argues that over the long run this induced substitution of capital for labour in a way such as to reduce the bargaining power of labour. The net effect was a more capital intensive production structure in Europe, and higher rates of unemployment.

reduced tax rates or tax holidays for recent high income migrants, or policies to increase the number of people in the labour force with exceptionally valuable skills through high rates of public subsidy on advanced education. Governments can expect to encounter criticisms of these policies because of the perception that the benefits are skewed in favor of those who are being targeted at the expense of everyone else. I have argued elsewhere that market driven labor market mobility is already making this happen and Canada as a whole can benefit from this type of global mobility for reasons articulated in sections 3a-3c.[20] Governments who wish to offer incentives to attract offshore global knowledge workers need to ensure that the benefits of such a policy are widely shared if the policies are to be politically sustainable. There are, in the absence of significant labour market integration initiatives, two approaches to mitigating the negative distributional consequences which might arise. One, is simply to increase the extent and size of training and education resources in order to bring a larger share of the population into the globally mobile category. This is particularly important for younger people. Their immobile parents are more likely to support such initiatives if they see them as increasing the economic opportunities of their children. The other is to undertake more realistic cost benefit analysis of the higher education system so that those who benefit privately from the increased returns their publicly provided education brings pay proportionately. The exit option has of course created a fundamental dilemma for Canadian governments. They seek to encourage more skill acquisition but larger global labour market opportunities make it more difficult to capture the returns of this investment ex post. There have been a number of schemes that have been proposed to deal with the time inconsistency problem in the public provision of mobile human capital, including greater use of income contingent loans for students, more extensive privatization of professional schools, and various 'Brain exit' tax schemes for migrants choosing to leave Canada. Creating the right balance of incentives is difficult but something along these lines may be the inevitable consequence of the globalization of highly skilled labour markets.[21]

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[20] See Harris(2004b).

[21] There have been many proposals over the years on taxing the Brain Drain, many originating with a proposal of Bhagwati in the 1960's. Most of these are in the context of developing countries but the ideas are re levant to all countries. A recent interesting paper in this vein is Desai, Kapu and McHale(2001).

5. Policies toward increased International Mobility of Highly Skilled Labour

In this section policies are examined which might be undertaken to a) achieve closer Canada -US labour market integration in the sense of movements toward a common Canada US labour market and b) policies to either increase mobility of Canadian skilled labour and/or increase Canada's ability to attract globally highly skilled labour. The former can be thought of as 'free trade in labour services' and the latter as unilateral polices directed to increasing the Canadian competitive advantage in skill intensive knowledge industries.

Canadians are well acquainted with policy initiatives designed to increase labour mobility across regions. The lack of a fully integrated Canadian labour market was for decades a problem that was ignored. This problem was finally addressed in the 1994 Agreement on Internal Trade (AIT), of which chapter 7 deals with labour mobility. There was a -commitment by all governments, except Quebec, in 1999 to ensure full compliance with the agreed upon targets by July 1, 2001. The major issue was interprovincial recognition of occupational certification and public procurement. This was handled by essential a system of Mutual Recognition Agreements among provinces. As of 2002 it seem to have been quite successful. A recent HRDC report[22] indicates that of 51 occupations there has been substantial progress in 82% of the cases. This is of considerable economic benefit to Canada. 15 to 20 percent of workers in Canada work in regulated trades and occupations and every year approx 200,000 Canadians relocate to a different province or territory.

Could the Canadian Chapter 7 of AIT prove to be model for any potential NALM? There are a large number of regulatory barriers which exist to the mobility of labour across state and provincial lines. These include

1. Professional occupation licensing and certification
2. Government licensing and certification of trades
3. Preferential hiring by governments and imposed by government on private sector
4. Income security programs
5. Differences in education systems and language

[22] See www.hrdc-drhc.gc.ca/sp-ps/lmp/mobility/implementation

6. Employment standards

Of these probably the most significant are the barriers which exist due to differences in recognition of occupational certification, licensing and the like. There are also local union barriers which have a similar effect. For example in the film industry, which is important in most Canadian cities, certain types of jobs are subject to union membership restrictions. Other examples include airline pilots, certain types of health professionals, engineers, technicians, and construction trades. In other areas there are almost no barriers to cross border or state-province moves given current levels of unfilled demand—nurses, software programmers and university professors are a few of many examples.

By far the biggest single issue in getting to a NALM will be the overwhelming role that US states play in the regulation of US labour markets. Any movement towards a NALM would require significant negotiations between States and Provinces, within an overall framework handled by the national governments. The stakes for Canada are significant. As is often noted if US states were countries three of them California, New York, and Texas are among the 10 largest nations in the world—with New York and Texas each producing more than Canada, and California producing more than Canada and Mexico combined. If one looks at the current top 25 nation-states in the world as ranked by GDP, 22 U.S. states are larger than the smallest of this list of 25. Clearly the task of getting to closer Canada-US labour market integration is made both more difficult by the size of the US economy, but at the same it increases the value of market access to Canada. Canadian provinces are now well aware of this, and on the trade and investment front invest considerable public resources in interacting with their US state counterparts.

Conceptual Policy Approaches to Formal North American Labour Market Integration

It is clear that we are virtually years away from any possibility of a NAFTA based common labour market framework. The major political barriers from the US perspective are the prospects of opening up the US-Mexico border. It seems therefore that within the realm of feasible there is really only one possibility. This would be a Canada-US stand-

alone agreement covering some agreed upon list of occupations and/or skills over which labour market integration was intended. A Canada US Labour Market Integration Agreement (CUSLMI) would almost certainly have various exceptions provided for. The following is a list of possible styles of agreement going from the most comprehensive to the least comprehensive.

1. Complete freedom of movement of Canadian and US citizens across the Canada US border for purposes of employment including full access to social programs and rights of citizenship accorded to workers of one citizenship working in the other country

2. A. common labour market but limited citizenship rights. For example restrictions on use of social policies such as unemployment insurance or welfare by citizens of one country working in the other.

3. a) A common labour market restricted by skill defined by educational attainment. For example only those recognized university degrees or classes of occupational certifications would be eligible to take up employment in the other.

3 b) A common labour market restricted to particular occupational categories. This is analogous to sectoral or managed free trade arrangements in goods markets.

4. Managed labour market integration. Some variant of 3a) or 3b) with a joint Canada-US commission placing explicit quotas on the numbers granted access in light of demand and supply conditions in particular occupational markets. This might avoid some difficult political economy problems if local jobs appear to be threatened by large cross border flows.[23]

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[23] This proposal should be distinguished from various 'guest worker' programs that exist in a number of countries including Canada, which allow for the temporary entry of migrants to meet unfilled labor demands. Under a managed labor market integration admissions would be permanent rather than temporary.

It is clear that the general principle of the free movement of labour even so circumscribed would be subject to exceptions. For example restrictions on access to sensitive public sector jobs in each country; e.g. Defense, security, culture, could be exempted. All of these type of arrangements might or might not include restrictions on the eligibility of recent immigrants to take up jobs across the border. In the absence of a fully harmonized immigration screening and selection procedure this would not be an unreasonable expectation. Which of these is more likely? Obviously the least ambitious. Clearly a period in which there is a gradual elimination of barriers will cause the least disruptions. Given the Canadian experience with the AIT the process of getting to a greater degree of mobility should be expected to take a number of years, particularly where local regulation of certification is important.

How one gets to the stage of even talking about such an arrangement of course is an open question. It clearly could be packaged as part of Wendy Dobson's (2002) 'Grand Bargain', but it also might be a stand-alone initiative when the political winds are blowing in the right direction.[24] I think one can argue that improving labour market access of Canadians and Americans to each other's market is in fact one of the politically least difficult forms of economic integration. Compared for example to harmonization of regulatory policies, a common currency, or a common competition policy there are relatively few large interest groups which would be opposed in the US. In the case of each country relatively little in the way of national sovereignty is sacrificed, either real or imagined. Moreover the fact that several thousand Canadians and Americans might be taking up work each year in the other's country would hardly be noticed relative to the size of the current immigration flows.

Mobility Directed Policies: Unilateral Initiatives

International mobility of highly skilled labour is driven by a host of determinants some of which are national specific policies. How might Canadian policy contribute to the mobility of Canadian knowledge workers in ways which enhance national prosperity? Changes in technology and immigration pressures are driving the observed increases in global labour mobility and thus a great deal of highly skilled labour market integration

[24] A number of the proposals for deeper Canada US economic integration are summarized in Goldfarb(2003)

will occur without or even despite specific policy initiatives at the national level. Most government policies in one way or another do impact on the degree of labour mobility. If it is generally agreed that greater international mobility of skilled workers is desirable, then government policies, social and economic, must include in their assessment the potential positive or adverse impact on Canadian participation in global knowledge markets, and ability to attract and retain global knowledge workers. In this section some suggestions are made on policies under the direct control of Canadian governments which might have an important effect on skilled labour mobility.

Trade policy

At the moment Canadian trade policy stands fairly evenly balanced between efforts to deepen and widen NAFTA, as well as to push the multilateral liberalization agenda at the WTO. The bulk of existing evidence suggests that trade volumes and international labour migrations are complements as opposed to substitutes. See Harris and Schmitt (2003) for a review of this evidence. Assuming this to be the case policies which are trade creating will tend to promote or at least not hinder the mobility of labour. In addition trade agreements are now also investment agreements. Larger volumes of FDI are also consistent with greater labour mobility. Given that multinationals are major employers of global knowledge workers, seeking to attract FDI is consistent with having more mobile knowledge workers. In additional seeking further liberalization of services under the WTO or NAFTA is also consistent with the promotion of the international mobility of knowledge workers. The one worrying trend is the widespread proliferation of bilateral agreements by the NAFTA partners. While these may in principle be liberalizing there are limits to the benefits of this process to Canada. As argued by Ann Kreuger (2000) overlapping FTA's can eventually lead to significant trade diversion. In particular if the US continues to expand its set of bilaterals the potential benefits to firms seeking to access the North American market from Canada will be undermined. In knowledge intensive sectors this would at the margin reduce demand for these type of workers in Canada, and thus limit the size of that type of labour force within Canada. Lastly there is the worrisome discussion in the US about protecting service jobs in IT from outsourcing to countries such as India discussed previously. While there may be

perceived short run benefits to mimic US policy on this front, it is in Canada's long run interest to see that this type of job protectionism does not proliferate, and should refrain from endorsing or participating in any such trend.

Domestic Labour Market Policy

Canadian labour markets by OECD standards are viewed as fairly flexible, but greater emphasis on active labour market adjustment policies (ALMP) is always warranted. Greater flexibility of labour markets is consistent with, and will generally promote, a more mobile labour force. In some cases this is obvious as for example in aiding workers in the job search process. Governments could seek to expand the search area to relevant US job markets. In the case of job retraining programs greater emphasis might be placed on meeting global occupational standards as opposed to 'made in Canada' standards. Subsidies provided for relocation might be extended beyond Canada to other NAFTA locations. Probably the most difficult politically, but something worth investigating would be a form of unilateral labour market opening—reducing barriers to US or other suitably qualified workers to taking up employment in Canada on either a temporary or permanent basis.

Tax and Fiscal Policy

The international mobility of highly skilled labour creates natural incentives for governments to compete for these individuals. The necessity of a competitive tax regime in the face of highly mobile professional and technical workers has been apparent to most governments for some time now, and was at least part of the reason both provincial and federal governments have been reducing taxes on wage income. related concern is the impact that taxation has on the private returns to accumulate skills. Jim Davies (2003) has recently argued that there are still significant human capital externalities which drive growth, and the personal tax system tends to discriminate against investments in skills relative to other forms of investment. For both reasons governments of smaller open economies must continually monitor the tax treatment of income accruing to skills relative to that in other jurisdictions. Balancing this concern however on the tax side is the need for public expenditures which deliver high quality and cost effective services.

Knowledge workers want good schools and a clean environment. All levels of government must cooperate to ensure the combined package of taxes and public goods is competitive for the highly skilled.

The actual degree of international mobility of labour is in part a function of the work experience of individuals. Canadians should be encouraged to take up temporary jobs outside of Canada in knowledge intensive areas. Selective tax incentives to encourage these type of move should be considered. One possibility for example would be to offer reduced income tax rates to workers returning from abroad.

Education

A highly skilled labour force is more likely to be mobile than a less skilled labour force. Canada already has a high degree of commitment to this objective in terms of its current higher education policy at both graduate and undergraduate levels. Global mobility per se could encouraged at the margin in a number of ways. At the undergraduate level more emphasis should be placed on the year of 'study abroad' option. While this is mildly popular with respect to European destinations there are very few undergraduate programs which target either the US or Mexico. The federal government could explicitly provide scholarships for these type of activities. Larger budgets to the granting agencies, SSHRC and NSERC, for purpose of support of graduate students studying abroad would also increase the number of Canadians with 'foreign experience'.

Science and technology policies

Government policies towards science and technology are important for mobility in a number of respects. First S&T activity is extremely intensive in skilled labour. In the global competition for scientists and engineers it is imperative that Canada be able to offer world class facilities and compensation which is at least as good as that offered by our technology competitors. The major problem however is that world class S&T research is expensive. In publicly supported labs there is the inevitable necessity for a country the size of Canada to specialize, and/or to network with other major S&T efforts in the US or Europe. Given that S&T itself is increasingly globalized we should expect that Canadians will routinely spend periods of time abroad participating in such projects.

Part of the overall public support of basic science should recognize the importance of the international networks to the production and dissemination of ideas in Canada.

The private sector contribution to R&D has been Canada's Achilles Heel in term of international R&D rankings. Despite some recent improvement Canada still ranks well behind a number of other countries in terms of Business spending on R&D. This weak private sector demand in turn translates into a significantly smaller market for Canadian R&D workers—precisely the people who participants in the technical intensive knowledge creation. Government has made various commitments to fix this problem including the Prime Minister in a speech delivered last September in Montreal on the 'Innovation Agenda'. I will not take up the large number of proposals that have come forward on fixing the innovation gap. I would note however that a closing of this gap will certainly go a long ways to increasing Canada's ability to attract and retain highly qualified technical people.[25]

6. Conclusion: Research Implications

In this paper two approaches to increasing the mobility of the highly skilled have been discussed. Increased international integration of labour markets, and the use of national polices to attract produce globally mobile knowledge workers. There appear to be at a number of major areas of research were there are significant knowledge gaps in virtually all of the topics discussed. Better data and more reliable statistical analysis of the various causal channels through which increased mobility impacts on the economy is clearly warranted. A few examples. (a) Are knowledge spillovers directly related to knowledge workers, and if so what are the international linkages of this to national productivity growth? b) The quantification of the extent to which increased international labour mobility would impact on risk and average rates of return to skill acquisition; c) the role of increased Canada-US trade integration on occupational and skill specialization—does better access to large external labour markets matter for human capital formation in Canada? (d) What are the significant regulatory barriers to integration of some particular Canadian and US labour markets?

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[25] Some of these proposals are discussed in Harris(2004c).

At the policy level I think the priorities should have first focus on those policies which can increase the ability of Canadian firms and governments to attract and retain the very highly skilled. Secondly Canada should seek to increase the share of its labour force which is very highly skilled and thus potential participants in the knowledge based economy. Lastly there must be ongoing efforts to improve Canada-US relations. Preservation of North American market access for goods and services remains a fundamental priority for Canadian employment and growth. Increased labour mobility seems relatively inconsequential relative to this larger concern, but at some point in the future there may be an opportunity to take some significant steps forward on the Canada-US economic integration agenda. Greater cross border labour mobility in some form might be one area where progress is possible.

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